



SAFETY DATA SHEET

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Version 4.0
EN

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product Name	Ammonium sulfate
CAS-No	7783-20-2
EC-No	231-984-1
REACH Registration Number	01-2119455044-46

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Flame retardant, Fertilizers, Laboratory Chemicals
Uses advised against	No information available

1.3 Details of the supplier of the safety data sheet

OCI Nitrogen BV
Mijnweg 1
P.O. Box 601
6160 AP Geleen, The Netherlands
Tel: +31 (0) 46 7020111
www.ocinitrogen.com
info.agro@ocinitrogen.com

1.4 Emergency telephone number

National Poisons Information Service (London Centre)
+44 20 7771 5307

Manufacturer : Alert & Care Centre Chemelot (Geleen, The Netherlands)
+31 46 4765555 (24/7)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification (1272/2008/EC)
Not classified.

Classification according to EU Directives 67/548/EEC or 1999/45/EC
Not classified.

2.2 Label elements

None.

2.3 Other hazards

Ensure adequate ventilation, especially in confined areas.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Chemical Name	EC-No	CAS-No	Weight %	Classification (67/548/EEC)	Classification (1272/2008/EC)	REACH Registration Number
Ammonium sulfate	231-984-1	7783-20-2	100	-	-	01-2119455044-4 6

SECTION 4: FIRST AID MEASURES**4.1 Description of first aid measures**

General advice	No hazards which require special first aid measures.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Get medical attention immediately if symptoms occur.
Skin contact	Wash off immediately with plenty of water. Remove contaminated clothing and shoes. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water, Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Get medical attention immediately if symptoms occur.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. Symptoms may be delayed.
Protection of first-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

4.2 Most important symptoms and effects, both acute and delayed

Main symptoms	Effects of contact or inhalation may be delayed. Burning feeling and temporary redness, Coughing and/or wheezing.
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4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically. Effects of contact or inhalation may be delayed.
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SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media The product itself does not burn. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons None known.

5.2 Special hazards arising from the substance or mixture

Special hazard Hazardous decomposition products formed under fire conditions: Sulphur oxides, Nitrogen oxides (NO_x), ammonia, amines.

5.3 Advice for firefighters

Special protective equipment for fire-fighters Wear self-contained breathing apparatus and protective suit.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Ensure adequate ventilation. Avoid airborne dust generation, wear personal protective equipment in compliance with national legislation. Avoid contact with skin, eyes and clothing.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Take up mechanically and collect in suitable container for disposal. Avoid dust formation.

6.4 Reference to other sections

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Do not enter areas where used or stored until adequately ventilated. Wear personal protective equipment. Do not breathe dust. Do not eat, drink or smoke when using this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place. Do not enter areas where used or stored until adequately ventilated. Keep away from direct sunlight, heat, flames and sparks. Incompatible with oxidising agents, alkali metals.

7.3 Specific end use(s)

Exposure Scenario Not available.

Other information Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Exposure limits Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL)

For: Workers.

Chemical Name	Long-term exposure - Systemic effects - Inhalation	Long-term exposure - Systemic effects - Dermal	Acute / short-term exposure - Systemic effects - Inhalation	Acute / short-term exposure - Systemic effects - Dermal
Ammonium sulfate	11.167 mg/m ³	42.667 mg/kg bw/d		

Predicted No Effect Concentration (PNEC)

Chemical Name	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Freshwater sediment	Marine sediment	Soil	Oral
Ammonium sulfate	0.312 mg/L	0.0312 mg/L	0.53 mg/L	16.18 mg/L	0.063 mg/kg dw		62.6 mg/kg dw	

8.2 Exposure controls

Appropriate engineering controls Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye protection	Tightly fitting safety goggles
Hand protection	Protective gloves: Butyl rubber, PVC, Break through time: 4 - 8 hours. Glove thickness: 5 mil.
Skin and body protection	Long sleeved clothing
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment: Effective dust mask.
Recommended filter type	P2

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Environmental Exposure Controls The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state @20°C	Solid
Appearance	No information available
Colour	Off-white / Yellow-brownish
Odour	Odourless
pH	5-6 (5% w/w)
Melting/freezing point	Decomposes @ >235 °C
Boiling point/boiling range	Decomposes @ >235 °C
Flash point	Not applicable
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limits in Air	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	1.78 (water=1)
Solubility	
Water solubility	7.6 g/l
Partition coefficient (n-octanol/water)	-5.1
Autoignition Temperature	No information available
Decomposition temperature	> 235 °C
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidising Properties	No information available

9.2 Other information

Bulk density	Granulated: 1000 - 1060 kg/m ³
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SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No information available.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Nitrites, alkalis.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: Sulphur oxides, nitrogen oxides (NO_x), ammonia, amines.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	
Ingestion	No known effect.
Skin contact	No known effect.
Inhalation	No known effect.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium sulfate	4250 mg/kg (Rat, OECD 401) >2000 mg/kg (Rat, OECD 423)	>2000 mg/kg (Rat, OECD 434)	> 900 mg/m ³ (Guinea pig, 8h)

Skin corrosion/irritation	Non-irritating (rabbit, OECD 404).
Serious eye damage/irritation	Non-irritating. Dust contact with the eyes can lead to mechanical irritation.
Respiratory or skin sensitisation	Did not cause sensitisation on laboratory animals (guinea pig).
Germ cell mutagenicity	Not known to cause heritable genetic damage (OECD 471, OECD 476, OECD 473).
Carcinogenicity	Contains no ingredient listed as a carcinogen, OECD 453: Negative.
Reproductive toxicity	Not known to adversely affect reproductive functions and organs. Not known to cause birth defects or have a deleterious effect on a developing fetus.
STOT-single exposure	No known effect.
STOT-repeated exposure	No known effect.
Aspiration hazard	No known effect.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Contains no substances known to be hazardous for the environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ammonium sulfate		LC50: 460 - 1000 mg/L Leuciscus idus, 96 h static LC50: 250 mg/L Brachydanio rerio, 96 h LC50: 480 mg/L Brachydanio rerio, 96 h flow-through LC50: 420 mg/L Brachydanio rerio, 96 h semi-static LC50: 18 mg/L Cyprinus carpio, 96 h LC50: 100 mg/L Pimephales promelas, 96 h LC50: 32.2 - 41.9 mg/L Oncorhynchus mykiss, 96 h flow-through LC50: 5.2 - 8.2 mg/L Oncorhynchus mykiss, 96 h static LC50: 123 - 128 mg/L Poecilia reticulata, 96 h semi-static LC50: 126 mg/L Poecilia reticulata, 96 h		EC50: 423 mg/L Daphnia magna, 24 h LC50: 14 mg/L Daphnia magna, 48 h

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

Chemical Name	log Pow	Bioconcentration factor (BCF)
Ammonium sulfate	-5.1	

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12.6 Other adverse effects

No information available.

SECTION 13: DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Waste from residues / unused products**

Dispose of in accordance with local regulations. Should not be released into the environment. Where possible recycling is preferred to disposal or incineration.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: TRANSPORT INFORMATION

According to: ADR, RID, ADN, IMDG, ICAO.

14.1 UN number

Not regulated.

14.2 UN proper shipping name

Not regulated.

14.3 Transport hazard class(es)

Not regulated.

14.4 Packing group

Not applicable.

14.5 Environmental hazards

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable (Non-hazardous substance).

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Restrictions on use None.

Other regulations None.

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3**

Not applicable

Full text of H-Statements referred to under sections 2 and 3

Not applicable

Abbreviations/acronyms

(E)EC: European Commission
REACH: Registration, Evaluation, Authorisation and Restriction of Chemical substances
STOT: Specific Target Organ Toxicity
PBT: Persistent, Bioaccumulating, Toxic
vPvB: very Persistent and very Bioaccumulating
ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
RID: Regulations for the International Transport of Dangerous Goods by Rail
ADN: Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures
IMDG: International Maritime Dangerous Goods Code
ICAO: International Civil Aviation Organization

Revision Note

Emergency telephone, Predicted No Effect Concentration (PNEC), Toxicological information, Ecotoxicity.

Training Advice

Workers must be trained in the proper use and handling of this product as required under applicable regulations.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

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